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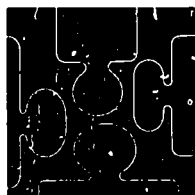
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J O B / B E H A V I O R A L

A N A L Y S I S M A N U A L

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FOREWORD

The contents of this manual were tested under a U.S. Department of Labor, Manpower Administration, Research and Development Contract No. 82-05-70-05. The manual derives from a project known as Operation Pathfinder, conducted in Los Angeles by the Mentec Corporation.

Mentec Corporation extends its appreciation to the five hundred foremen, supervisors, and managers of over one hundred companies and public agencies who since 1967 contributed to the development and success of this project.

For further information concerning the contents of this manual or its utilization in Operation Pathfinder, contact the Office of Research and Development, U.S. Department of Labor, Washington, D.C.

This document is one of four manuals designed to aid supervisors in the training of employees, particularly hardcore disadvantaged. Its specific purpose is to enable management to strengthen, broaden and generally maintain an established, operational social reinforcement system. The three companion documents are:

- How to Train Supervisors in Behavior Modification
- Supervisory Workbook on Behavior Modification
- How to Maintain a Social Reinforcement Program

Theoretical rationale and supporting evidence underlying these manuals are presented in a report entitled:

- Operation Pathfinder: Shaping Work Behavior of Ex-Offenders and Other Disadvantaged People Using Social Reinforcement Techniques

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I. INTRODUCTION

It is often said that the success of an employee is, more often than not, dependent on his relationship with his supervisor. Since the supervisor holds a position of power - he is the company as far as the employee is concerned - it is obvious that the employee interested in retaining his job will attempt to behave in ways that are agreeable to his supervisor. If his attempts are continuously unsuccessful, he will likely be terminated; if he finds the work environment and/or supervisor to be highly ambiguous and/or threatening, he will likely terminate himself. In effect, the success or failure of an employee can often be attributed to the extent to which a supervisor is a good leader, as well as a good trainer.

Although the above discussion relates to all employees, it is particularly relevant to the hardcore disadvantaged. Such individuals have poor work histories, have received considerable social "punishment" and have developed failure habits. Unless concerted, well-meaning effort is exhibited by supervisors during the critical, initial training period, the hardcore will quit their jobs before they develop stable work-oriented habits.

Being highly unskilled and lacking strong job attitudes, the hardcore need close supervision and a positive, social reinforcing atmosphere; the exhibition of punishment, threats or general indifference by a supervisor will almost inevitably facilitate the perpetuation of failure inducing habits. Thus, supervisors should be particularly careful in describing the tasks and associated behaviors of employees and should be generous in providing verbal approval (social reinforcement) when appropriate behaviors are exhibited. This manual describes some simple procedures which can be used by supervisors for systematically delineating required and/or desired behaviors of employees. Application of social reinforcement techniques is the subject matter of three companion manuals, cited in the Foreword of this document.

A. WHAT IS BEHAVIOR?

Behavior is any physical or verbal activity. All that we know about a person is what his behavior tells us. Behavior includes all such actions as walking, talking, smiling, frowning, grasping a steering wheel, and punching a key on a cash register. Dressing neatly and interacting politely with others are also behaviors.

Two people will very readily agree on what they have observed a third person do. These same people, however, will often disagree very widely in their interpretations and impressions concerning why the third person behaved as he did. Thus, we can easily determine what a person does by observing him, but we cannot observe his reasons or attitudes.

Although it is very easy to assume that an employee has one or another attitude, not only is the assumption often incorrect, attitudes are personal and should not be the concern of supervisors. On the other hand, behaviors are public and supervisors should concentrate on shaping them to fit the job. Generally, good attitudes will develop as a result of good work behaviors. However, given good work behaviors, an employee should not be punished or reprimanded for what a supervisor thinks are poor or disagreeable attitudes.

B. BEHAVIORAL SKILLS

Behavioral skills are all those behaviors that enable an employee to be a successful worker. They vary all the way from carrying out physical tasks properly to dressing neatly (particularly if the worker must interact with "customers").

Job training for the disadvantaged requires unique emphasis on certain behaviors that might seem obvious but may nevertheless be treated inappropriately. Supervisors cannot assume that habits developed during periods of unemployment will disappear the moment an individual is hired. Workers recruited from the ranks of the disadvantaged do not arrive at the job site with sound habits of punctuality, regular attendance, attention to safety requirements, getting along with fellow workers, etc. Since these and other behaviors are of considerable importance, attention must be focused on them at the start.

If a goal of an employer is to really provide jobs for the disadvantaged, he must expect to be confronted with poor habits and he must use a positive approach to modifying them. Otherwise, he will waste everybody's time including his own. The vast majority of the unskilled can acquire skills; the problem is primarily social adjustment, not technical competence. And it is the job of the supervisor to encourage good social adjustment while developing technical skills.

Before behavioral skills can be achieved, obviously the supervisor must know all of the behaviors an employee must acquire. He also must obviously transfer this knowledge to the employee. Section 2 describes several steps which simplify the analysis of jobs into the required behavioral tasks and other important elements. These procedures can be used by company Job Analysts or by supervisors at any level.

II. JOBS ANALYSIS

A. INTRODUCTION

Every job requires some physical and intellectual activities. Many require social interaction. Also, some require special precautions and/or safety equipment because of a hazardous working environment. In analyzing the requirements of a job, all of these characteristics should be considered and a list of behavioral elements should be constructed. To exemplify this process, consider the following questions:

- Does the worker have to stand, sit, or stoop? If so, for what time periods?

Standing, sitting or stooping for prolonged periods can be quite fatiguing, and fatigue almost invariably leads to reduced performance. If these demands cannot be avoided, then a supervisor should expect and accept decreasing performance during a work day. Any other expectation is unrealistic.

- Is there a requirement for writing? If so, what level of writing skill?

Most disadvantaged individuals have at least rudimentary writing skills. That is, they can communicate basic ideas, whether qualitative or quantitative. Also, they can be taught rather easily to complete such items as daily logs, work sheets, time charts, etc. However, fine writing skills require considerable time and practice to develop, especially for adults who have had little previous exposure. Therefore, if a worker will need higher writing skills for advancement, a simple training program should be initiated early to enable him to gain those skills.

- Is there occasional or frequent need for following written instructions?

As with writing, most disadvantaged individuals can read elementary material, including simple, well-written instructions. However, as we all know, most educated adults have considerable difficulty in completing many instruction forms such as applications, income tax forms, etc. Therefore, if written instructions are frequently or extensively given to workers, efforts should be made to simplify them as much as possible. Also, it is always useful to go over them with workers to make sure that they are understood.

- Is there a requirement for talking and/or selling? If so, what needs to be communicated and/or what sales techniques need to be acquired?

For most types of industrial jobs oral communications are relatively simple and should not be a problem for the typical disadvantaged worker. In these cases, concern is with the quality and quantity of physical performance and "polished" speech is totally unnecessary to achieve that performance.

Jobs that require customer interactions are a different matter, particularly if products must be sold to new customers. As with reading and writing, language skills do not develop rapidly. Also, sales techniques must be learned regardless of an individual's verbal capabilities, i.e., even highly educated persons do not make good salesmen without acquiring unique sales skills. In fact, given reasonably good oral skills, learning effective sales skills is far more difficult to most people than improving their language. For example, a salesman must be aggressive in contacting and pursuing a potential customer, and yet he must appear unaggressive and extremely polite during verbal exchanges. The point is, selling is not easy for anyone and a supervisor should show empathy toward a new disadvantaged employee during the training process.

- Is there a requirement for short hair? Short fingernails?
No facial hair?

In past decades, conformity to certain standards associated with visible portions of the body was very strongly enforced and there was an apparent willingness to conform on the part of most people. Conformity today has obviously weakened considerably and it remains that fewer and fewer companies are holding to what might be called "conservative" standards. Such standards may or may not be dependent on external needs. That is, if certain standards must be met in order to sell a product, then the integrity of the company is at stake and employees should be shown that the standards are based on necessity, rather than the whims of management. On the other hand, if standards are based on such whims, a supervisor must transmit the idea that all employees are "in the same boat."

Perhaps the only real problem that may arise is the supervisor who insists on his own standards and attempts to enforce them on his subordinates, regardless of company policy. In this case, an employee will perceive no justification for the standards and will likely develop strong negative attitudes and perhaps behaviors toward his supervisor.

- Does the worker have to dress in a certain way or may he wear what he pleases?

Comments related to the previous question are also very much relevant here. There should be no need for further elaboration.

- Does the worker have to carry or manipulate objects? If so, with what dexterity and what strength?

Although it does not take a Jobs Analyst to know that individuals are limited as to what object weights and shapes they can and cannot lift, it is often amazing how little this fact is considered in "designing" jobs. Many workers are often required to lift and carry objects which clearly should be manipulated by machine aids. The result of overexertion is physical fatigue and sometimes injury. However, if a job is so structured that such lifting and carrying behaviors are at least occasionally mandatory, a supervisor should be aware of them and describe (and perhaps demonstrate) how they can be best achieved.

Dexterity requirements are associated with most skilled jobs. In large part, the lack of learned patterns of manipulating such items as a cutting tool define the disadvantaged person. He has not acquired such behavioral skills and these probably represent the most important training task of a supervisor. Each elementary behavioral step in the job task should be carefully described and demonstrated - as frequently as deemed necessary. Forcing an unskilled worker to develop those precise behaviors by trial and error is both inefficient, with respect to company costs, and frustrating to the worker.

- Does the worker have to operate a motor vehicle, mechanical or electronic machine? If so, what skills and safety precautions are required?

In addition to dexterity skills, clearly required in operating machines, a supervisor should be aware of the many behaviors which can result in injuries, despite mechanical or other safety aids. Not only should injuries be avoided because of health considerations, injuries clearly represent a major cause of financial loss to industries in general. Loss of workers' time on the job, immediate medical costs and, perhaps, compensation awards are all directly translatable to costs to the company. Therefore, full recognition of and adherence to behaviors that present low injury risks should be given considerable emphasis.

- Does the worker function independently or as a member of a team?

It is a fact that some people need more social interactions than others to maintain job satisfaction and it is also a fact that some people are more capable of interacting as a team than others. Thus, a person who needs a reasonable amount of social interaction should, if at all possible, be placed on jobs which have such characteristics - and vice versa.

As any athletic coach knows more than anything else, individual and team skills are vastly different. In team tasks, the performance of each individual is dependent on the performances of others. Working together involves physical and intellectual coordination and proper timing. Many accidents and poor quality products in industry are caused by insufficient attention to these behaviors. A supervisor should encourage workers, especially for critical, important and/or dangerous tasks, to never assume that their team partners will always take care of their parts of the task unerringly. Of unquestioned truth is the universal fact that people do make mistakes and when potential mistakes can be costly or dangerous, the best policy is to work defensively - watch out for the other guy.

- Are the worker's activities paced by machine or does he work at his own speed?

When an individual's speed of work is automatically set by machine, such as a conveyer belt, it should be clear that his manipulatory skills should be such that he is fully able to complete one task before the next one begins. Training should consist of very slow pacing initially and then gradually be increased.

Machine paced jobs are neither interesting nor motivating to most workers, particularly men. They are jobs that must be accomplished and someone must do them. However, supervisors should not expect workers to be happy and/or engrossed on such jobs. They should fully recognize that these workers are performing tasks which are relatively boring. Such recognition can permit supervisors to sensitize themselves to workers' other needs, the achievement of which may increase overall job satisfaction.

The above comments are also relevant to jobs which, while not paced by machine, require workers to achieve some "standard" rate of production.

- Does the worker require special sensory aids, e.g., magnification lenses, earphones, etc?

Often, the use of special sensory aids tends to isolate a worker from his environment. While using the aids he often cannot interact with others and he must concentrate heavily upon his task at hand. For example, assembling miniature electronic circuits using an optical magnification device can be quite stressful psychologically. Again, recognition and appreciation of such stresses can better enable a supervisor to structure a worker's total job so that there are, at least periodic, less demanding and/or pleasant time segments of a workday.

- When does an employee work and when does he rest?

For the most part, non-professional workers are expected to take rest breaks only at prescribed times during the day, for example, 15 minutes at 10:00 A.M. and 15 minutes at 3:00 P.M. Such work-rest cycles are unfortunate because they tend to regiment workers, preventing the possibility of achieving a relatively relaxed work pace. However, since the intent of this manual is to facilitate job analysis, not necessarily to recommend job restructuring, interest lies in sensitizing the supervisor to those aspects of a job and/or working conditions which tend to reduce workers' motivations and interests. A worker is generally more inclined to perform his best when his supervisor appreciates his "plight". When such appreciation is not shown, the worker will often perform at the minimum acceptable level, justifying his low performance on the grounds that if no one really cares about him, why should he care about the company.

While the structured work-rest schedule is generally depressive to most workers, it can be made more acceptable by a supervisor's recognition that he would not want to maintain such a schedule either.

- Can a worker smoke and/or drink coffee while working?

Smoking and drinking coffee are often not permitted on jobs because they presumably compete with a worker's time and therefore reduce production. However, as has been noted previously, reductions in production usually derive from physical or psychological fatigue and are common occurrences among most industrial workers. Periodic breaks for a cigarette or coffee tend to reduce fatigue and can actually improve subsequent performance.

All of the above questions and more are eventually answered by supervisors - if an employee remains long enough - but all too often the employee must go through a period of partial uncertainty and, perhaps, fear. This is simply because the supervisor has never really examined the total job structure nor documented all of the job requirements. It is apparently assumed that the employee "will learn all these things in due time." However, when dealing with hardcore disadvantaged, such an assumption is generally incorrect because uncertainty and fear will play a large role in his early termination.

B. JOB TASKS

The previous section has attempted to describe various characteristics of jobs which most of us would agree are constraints that we would not want to face on a daily basis. However, the constraints are real and workers are expected to accept them. Therefore, a good leader will sympathize with his subordinates and attempt to gain their acceptance of the negative characteristics of jobs by their acceptance of an understanding supervisor. This section emphasizes the need for supervisors to more clearly and systematically understand and describe the tasks of a job to his workers.

Of central importance to job analysis are the behavioral tasks comprising a job. It is surprising how many important tasks can be associated with an apparently simple job. It is not surprising, therefore, that a supervisor may fail to explain many of the tasks during the initial training period, since they are not normally documented for easy reference. For example, consider the tasks associated with a route salesman for a bread manufacturer. This individual supplies bread and related products to markets, interacts with customers, and attempts to develop new customers. The following lists tasks associated with the various functions of route salesmen.

1. Appearance

- Dress casually but neatly
- Keep clothes and body clean
- Keep clean-shaven (no beard)
- Keep hair and sideburns trimmed (no long hair)
- Keep shoes shined

2. Truck Loading

- Load uniformly every day
- Handle merchandise gently
- Regulate loading for the route
- Avoid excessive over and underloading

3. Route

- Learn route and customers

4. Truck Operation and Maintenance

- Keep truck clean
- Keep perishable products protected
- Protect products during deliveries
- Observe traffic laws carefully (can lose license and thus job if too many violations)

- Maintain courteous and defensive driving habits
- Locate best parking space at delivery points
- Monitor dashboard gauges while driving
- Report defective operations or equipment, such as brakes, tires, etc.)

5. Customer Relations

- Give friendly greeting
- Be courteous under pressure - control temper
- Show enthusiasm and sell yourself
- Be honest and accurate
- Meet store personnel at their level
- Be at store on time
- Provide fresh stock and avoid being out of stock

6. Distribution

- Learn the daily needs of various markets for appropriate distribution
- Document market needs throughout a month
- Learn payroll periods of other companies
- Learn competitors' techniques of distribution

7. Table Display

- Put right amount of merchandise at the right orientation on the right shelf.
- Regulate locations of breads to avoid stales
- Be aggressive in competing for space and position
- Maintain attractive display of merchandise

- Make return calls at markets to assure merchandise remains attractively displayed
- Use appropriate display signs to focus attention on your merchandise

8. Handling of Stale Merchandise

- Remove merchandise from shelf when it reaches fresh expiration date
- Handle stales the same as fresh products
- Carefully load stales in truck and keep separate from fresh product
- Complete stale sheet for stale merchandise (includes name, date, day, route number, etc.)
- Return stales to company and obtain signed receipts

Many of the above task statements are self-explanatory with respect to required behavioral tasks. Some would require additional analysis to adequately describe the behaviors needed. For example, loading merchandise on the truck must follow careful procedures in order to avoid damage and to permit accessibility to the right items at the right time. These procedures should therefore be outlined. In any event, the development of job functions and underlying behavioral tasks provide a supervisor with detailed guidelines which can be followed when indoctrinating and training a new employee. Also, if such a job/behavioral analysis listing is made available to the employee, he will attain a better understanding of the overall job and will have a means by which he can determine his own progress in acquiring all required skills and knowledges.

How is a worker judged with respect to his achieving these behavioral skills? Certain tasks, such as gaining new customers, bringing back fewer stales to the plant, etc., can be rated quantitatively. Thus, the number of new customers per week or month can be counted and the number of stales per day or week can be counted. For example, the worker who brings back too many stales regularly is doing something incorrectly. He may be delivering more bread to a market than can be realistically sold. He may be delivering unappealing bread to a market, i.e., bread that is slightly crushed or otherwise damaged during loading. Perhaps his display of bread at the market does not attract customers. In any event, too many stales is an indication of insufficient learning or simply poor work habits and a supervisor can rate a worker by counting the number of stales that he brings back to the plant.

Other types of behaviors cannot be assessed quite so precisely. That is, a supervisor must use his own expertise in rating a worker. For example, there is no absolute number system for rating an attractive shelf display of merchandise or for rating the courtesy shown by a worker to market personnel. At minimum, a supervisor can simply state that a worker's displays are unattractive or insufficiently attractive and that he is not as courteous as he should be. However, if a simple rating scale is adopted for each of the behavioral tasks deemed important, a supervisor could rate his workers more objectively. For example, consider the following scale:

1	<input type="checkbox"/>	Very courteous
2	<input type="checkbox"/>	Moderately courteous
3	<input type="checkbox"/>	So-so
4	<input type="checkbox"/>	Moderately discourteous
5	<input type="checkbox"/>	Very discourteous

Of course, a supervisor must use his own judgment in selecting a point on this scale which he feels matches a worker's behavior. However, such ratings can be quite valid and useful when a supervisor makes his judgments independently of any personal biases he may have.

In summary, "breaking in" a new employee is often a lengthy process; considerable time accrues before the employee is considered acceptably effective. Part of the reason for the long training period is that supervisors are not organized to present a thorough, systematic training and evaluation program. To a large extent, the employee gains many of his skills by trial and error. That is, he is criticized or reprimanded when he does something wrong, but he does not receive a clear understanding of all of the behaviors that he is supposed to learn. A conscientious supervisor, on the other hand, will not train a new employee "by ear" or "off the top of his head." He is a teacher and should therefore prepare a curriculum of material to be taught. He can do this by analyzing a job into its behavioral elements, as above, developing a rating system which will allow both him and his workers to perceive progress made, and then proceed accordingly. While this procedure is suitable for most any employee, it

is particularly relevant to disadvantaged people who, by definition, have greater problems in obtaining and maintaining jobs. In effect, they need greater attention and understanding during the early training period than most employees. By more thoroughly describing and demonstrating all of the tasks that they must learn, they are less apt to suffer the negative consequences of trial and error learning. Such consequences tend to reinforce their beliefs that they cannot succeed and they therefore quit their jobs out of fear of receiving additional criticisms.

C. ENVIRONMENTAL FACTORS

The purpose of this step is to outline environmental factors which, if not accounted for, may continuously or occasionally influence an employee's health and/or job performance. In the case of the above example of a route salesman, vehicle and pedestrian traffic conditions represent a significant and continuous environmental problem. Poor weather conditions represent an occasional problem, not only for driving but also for safe delivery of merchandise from truck to market.

More typical environmental problems are the physical hazards associated with many industrial jobs. Accident rates in industry are quite high and it is generally agreed that most accidents result from poor employee knowledge of potential dangers. All such potential hazards associated with a job should be listed and thoroughly discussed with a new employee. Also, the employee should have such a listing for reference purposes.

Other environmental factors include degree of noise and temperature, adequacy of ventilation and illumination, chemical and gaseous contaminants and radiation. In most cases, safety aides should be available and described to an employee.

D. SOCIAL FACTORS

A supervisor should evaluate the effects of other workers on the performance of specific jobs. Do fellow workers influence a worker's behavior? Does their presence make him work slower or faster? Does an inspector talk with the worker? How do supervisors and other individuals in management give instructions, orders, criticisms and praise? What other social interactions occur?

Observations of workers can permit a determination of the amount of time spent on casual and job-related conversation. Too much casual conversation is obviously not in keeping with company needs. However,

a certain amount can facilitate motivation and, therefore, performance. It is especially effective when it is a supervisory policy to permit some conversation. That is, when workers do not feel they are being monitored constantly and when they have at least some conversational privileges, their job satisfaction increases.

Such observations can also facilitate a supervisor's understanding of the subtleties of work behavior and why some people "fit" and others do not. For example, a worker who is quiet, avoids discussion and apparently does not want social interaction is not likely to be very happy in a job which has a strong social system surrounding it. Similarly, a worker who obviously needs some social interaction is bound to be frustrated in a job that isolates him from others. At minimum, supervisors should periodically engage in small talk with such workers to reduce the effects of prolonged isolation.

III. JOB RESTRUCTURING

In many instances, supervisors do not have the authority to institute relatively major changes in jobs. However, since supervisors are closest to jobs and associated workers, they are clearly in an ideal position to suggest changes that may facilitate job satisfaction and worker performance. Close, thorough observations of jobs can lead to two types of recommendations concerning job restructuring.

A. JOB ENLARGEMENT

Many disadvantaged individuals have experienced a good deal of rejection, have been offered job opportunities only at the lowest levels, and have been presented with very little chance for upward advancement. Clearly, the numbers of higher level jobs in any organization decrease as the required skill and knowledge factors become more complex and the area of responsibility grows in scope. Thus, opportunities for advancement in any organization are generally few and infrequent. However, the fact that opportunities exist provides inducement to employees to work toward possible advancement. If, on the other hand, opportunities do not exist, workers cannot be expected to maintain a significant level of motivation for very long. And, as noted, motivated people produce more and better products.

What may be done to overcome the dilemma of fewer opportunities for advancement is to gradually make each entry level job more significant and challenging to the worker. Jobs can often be enlarged to encompass more responsibility and generate feelings of accomplishment and growth. Consideration should also be given to the potential use of new or additional equipment or procedural techniques which may lead to greater productivity and more challenging tasks. Of course, job enlargement, followed by increased capability and productivity should result in increased monetary rewards as well.

If there are definite advancement possibilities, employees should be encouraged to acquire skills and knowledges necessary for the higher positions after establishing their capabilities in their current jobs.

Job enlargement and developing growth potential in lower ranking employees are often taken very lightly by management. Yet, supervisors and other managerial personnel would be the first to agree that if there were no opportunities for them to advance, their motivation for personal growth and company involvement would likely be seriously reduced.

B. HUMAN FACTORS IN JOB DESIGN

An important consideration in jobs analysis is the design of equipment and/or operational procedures. In most industries, equipment and procedures are fixed in that workers must be "designed" or trained to operate the equipment in a certain way. In many cases, however, equipment and procedures are not designed to account for man's basic capabilities, limitations and psychological emotions. For example, a job may be easily performed by a worker, but it may be so monotonous that the worker eventually suffers severe mental fatigue. Such fatigue will lower productivity and it may seriously affect the quality of his work. The question is, then, can the job or procedures be redesigned or modified to reduce monotony, or can something more stimulating be added to it (perhaps a compatible secondary task) which results in a more interesting overall job?

Another job may be physically fatiguing simply because of inappropriate design. For example, a task may require a worker to stand on his feet for long periods of time because his heavy equipment is placed too far off the floor and a high, bar-type seat may be uncomfortable. Can the heavy equipment be made adjustable in height to permit alternations of standing and sitting?

The immediate, foregoing discussion has briefly touched upon "human factors" considerations in the design of jobs. When jobs are designed to minimize the use of man's inherent weaknesses or limitations and to maximize his capabilities, not only will his efficiency increase, his level of job satisfaction will also be augmented. It is recognized that the mechanical aspects of many jobs cannot be altered significantly without accompanying significant costs. However, appropriate "minor" alterations can frequently be made which may offer important effects. In either case, recognition of the design features of jobs which may produce physical fatigue and/or job dissatisfaction is an important part of jobs analysis and should be considered when training new employees. That is, supervisors should be aware of these features and should sympathize with workers when describing stressful aspects of a job. Also, if certain negative characteristics of a job cannot be eliminated or minimized, it may be useful to be more selective in placing individuals on specific jobs. For example, some people appear to be bothered less than others by the need to stand for prolonged periods. Indications of attitudes toward this job characteristic can be acquired during job interviews.